

**WHAT IS CLAIMED:**

1. 1. A method of producing a well comprising the steps of:
  2. a) positioning well fluid production tubing within a well borehole in flow communication with a well production zone;
  3. b) cementing said production tubing within said well borehole above said well production zone;
  4. c) purging substantially all cement from an internal bore of said production tube by fluid displacement; and
  5. d) opening the internal bore of said production tube to fluid flow from said production zone by fluid displacement within said internal bore.
1. 2. A method of completing a well comprising the steps of :
  2. a) assembling a well fluid production string comprising a pressure activated cementing valve, an external casing packer, a pressure activated production valve and a plug seal operatively combined with production tubing, said plug seal being positioned between said production valve and a point of well fluid entry into said production tubing;
  3. b) positioning said point of well fluid entry within said well at a desired well fluid production location;
  4. c) delivering a pump-down plug into said plug seal;
  5. d) increasing fluid pressure within said production tubing to inflate said external casing packer;

12                   e)     increasing fluid pressure within said production tubing to open said  
13                   pressure activated cementing valve;  
14                   f)     pumping a desired quantity of borehole cement down said tubing and  
15                   through said open cementing valve;  
16                   g)     delivering a closing pump-down plug against said pressure activated  
17                   cementing valve to close said cementing valve;  
18                   h)     increasing fluid pressure within said production tubing to open said  
19                   production valve;  
20                   i)     displacing said closing pump-down plug from obstructing a flowpath  
21                   through said production valve; and  
22                   j)     producing well fluid through said production tube.

1                   3.     A method of completing a well as described in claim 2 wherein said  
2                   production string assembly further comprises a production packer positioned up-  
3                   hole from said cementing valve.

1                   4.     A well completion tool comprising the combination of:  
2                   a)     a cementing valve having a cement flow channel from an internal pipe  
3                   bore into a surrounding well annulus, said flow channel being opened  
4                   by a fluid pressure displaced first sleeve element and closed by a fluid  
5                   pressure displaced second sleeve element;  
6                   b)     a fluid pressure engaged well annulus barrier surrounding said pipe  
7                   bore and displaced along said pipe bore from said cementing valve;

- c) a production valve positioned along said pipe bore from said annulus barrier in a direction opposite from said cementing valve, said production valve having a rupture opened flow channel from said surrounding well annulus into said pipe bore; and
- d) a pipe bore a plug seat positioned along said pipe bore from said production valve in a direction opposite from said annulus barrier.

5. A well completion tool as described in claim 4 wherein said cementing valve, well annulus barrier, production valve and plug seal are serially aligned toward the well bottom.

6. A well completion tool as described in claim 4 wherein said combination further comprises a production packer positioned along said pipe bore from said cementing valve in a direction opposite from said annular barrier.

7. A well completion tool as described by claim 4 wherein said cementing valve further comprises a closure plug seat positioned in said pipe bore along a direction from said cement flow channel opposite of said well annulus barrier.

8. A well production string comprising a production tube having an internal flow bore, said production tube suspending the operative assembly of:

- a) a cementing valve having a cement flow channel from an internal flow

bore into a surrounding well annulus, said flow channel being opened by a fluid pressure displaced first sleeve element and closed by a fluid pressure displace second sleeve element;

- b) a fluid pressure expanded well annulus barrier surrounding said production tube and displaced along said production tube from said cementing valve;
- c) a production valve positioned along said production tube from said annulus barrier in a direction opposite from said cementing valve, said production valve having a rupture opened flow channel from said surrounding well annulus into internal flow bore; and
- d) a pipe bore plug seat positioned along said pipe bore from said production valve in a direction opposite from said annulus barrier.

9. A well production string as described in claim 8 further comprising a production packer positioned along said flow bore from said cementing valve in a direction opposite from said annulus barrier.

10. A well production string as described in claim 8 further comprising a well fluid production screen operatively positioned along said flow bore from said plug seat in a direction opposite from said production valve.

11. A well production string as described by claims 8 wherein said production tube further comprises a closure plug seat positioned in said internal flow bore from

3 said cement flow in a direction opposite from said annulus barrier.